

DESCRIPTION

REFRIGERATOR HAVING A COMPARTMENT FOR ACCOMMODATING ARTICLES  
THAT ARE TO BE COOLED

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[001] This invention relates to a refrigerator with an inner space enclosed by a heat insulating housing and at least one compartment arranged in the inner space for accommodating articles to be cooled.

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[002] Such a compartment for accommodating articles to be cooled may, for example, be a compartment bottom or pull-out drawer mounted in the body of the refrigerator, or it may be a door compartment mounted on the inside of the refrigerator door. For reinforcing a free edge of such a compartment for accommodating articles to be cooled, and to protect such articles from damage, or simply for aesthetic reasons, it may be desirable to place a protective or decorative strip on the edge. If the edge has a curved shape, the strip must follow this shape.

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Producing the strips with different radii of curvature, according to the curvature of the edge on which they are to be mounted, involves high costs and is therefore expensive. Although in principle it is possible to produce such a curved strip by injection moulding with a radius of curvature which fits the edge on which the strip is to be mounted, this requires specific

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injection moulding tools for each radius of curvature.

[003] Extruded reinforcing or decorative strips of plastic, which are laminated with a metallic iridescent hot embossed foil to give them a metallic appearance, are known from the prior art.

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However, such extruded strips are generally rectilinear and cannot be permanently bent after extrusion without considerable expenditure in order to adapt them to the radius of curvature of the edge of a compartment for accommodating articles to be cooled on which they are to be placed.

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[004] A method is also known for placing a reinforcing and/or decorative strip on a free edge of a compartment for accommodating articles to be cooled, particularly a compartment bottom, the strip consisting entirely of metal. However, such a strip, in most cases manufactured in the continuous casting process, is also rectilinear, and it is difficult to bend

them to adapt them to a curved edge without at the same time distorting the strip as a result of bending.

[005] The object of this invention is to provide a refrigerator in which a strip that is also  
5 curved is placed on a curved edge of a compartment for accommodating articles to be cooled, and which is simple and inexpensive to produce with a small number of tools.

[006] The object is achieve din that the strip placed on the curved edge of the compartment for  
accommodating articles to be cooled is constructed from a plastic core and a metal jacket, the  
10 jacket holding the plastic core in a curved configuration. Such a strip may be initially produced comparatively simply in a rectilinear configuration, then bent to fit the shape of the edge. Whilst the plastic material of the core is generally only elastically deformed by such bending, plastic deformation takes place on the metal of the jacket, which deformation persists when the bending force is no longer exerted and prevents the plastic core from returning to a  
15 rectilinear configuration.

[007] To ensure a tight fit of the strip on the edge of the compartment for accommodating  
articles to be cooled and/or to protect the edge effectively from damage, the strip preferably  
has a groove into which the curved edge of the compartment is introduced.

[008] The strip, constructed from a plastic core and metal jacket, allows bending with a radius  
of curvature transversely to the depth direction of the groove without appreciable distortion of  
the strip.

[009] To enable the strip to be anchored by interlocking on the edge, the groove preferably  
has a width that increases, at least at certain points, from an inlet region of the groove to its  
bottom.

[010] The metal jacket preferably has a material thickness of 0.1 to 0.3 mm, preferably  
30 approx. 0.2 mm The strip, with plastic core and metal jacket, is preferably produced by co-extrusion. Therefore long rectilinear strips can easily be obtained which, for placing on one

edge of a compartment for accommodating article to be cooled, need only be cut to the length of this edge and bent according to its radius of curvature.

[011] Further features and advantages of the invention are evident from the following

5 description of an exemplary embodiment with reference to the attached figures, where:

[012] Fig. 1 shows a perspective view of a door compartment for a refrigerator according to the invention;

10 [013] Fig. 2 shows an enlarged section through the door compartment in Fig. 1 along line II-II; and

[014] Fig. 3 shows an enlarged detail of the door compartment.

15 [015] Fig. 1 shows, in a perspective view, a door compartment for a refrigerator according to the invention, with a drawer 1 integrally injection moulded from plastic. Drawer 1, open on its top, has a bottom 2, a rear wall 3 facing towards the door of the refrigerator when assembled, a curved front wall 4 facing towards the inner space and lateral walls 5, each of which is divided by a step 6 into a section adjacent to the refrigerator door and a section remote from  
20 the refrigerator door. When the door compartment has been assembled vertical ribs formed on the inside of the refrigerator door rest against the sections of lateral walls 5 close to the door, and projections formed on the ribs engage in grooves 7 of the sections close to the door to support the door compartment, which grooves are open at the bottom and closed at the top.

25 [016] As can be seen in particular in the sections shown in Figs. 2 and 3, a bead 8, with a cross-section in the shape of three quarters of a circle, is formed on the upper edge of front wall 4. A reinforcing and decorative strip 9 is interlocked on this bead 8 in that bead 8 is held in a groove 10 of strip 9. Groove 10, like strip 9 itself, has a cross-section roughly in the shape of a circle segment, which extends over an arc of more than 180° so that groove 10 is  
30 narrower in its inlet region than at its widest point. Strip 9 consists of a core 11 of a plastic material, which may be the same material as in drawer 1, and a jacket 12 of metal which essentially covers the visible outer surface of strip 9. Strip 9 is manufactured by co-extrusion

of metal jacket 12 with core 11, a straight strip being initially obtained. A piece cut from this straight strip in the length required for front wall 4 is then bent to the radius of curvature corresponding to the curvature of front wall 4. In the metal of jacket 12 this bending results in plastic deformation, whilst in the plastic of the core it is still largely elastic. The thickness of the metal jacket is chosen as approx. 0.2. mm so that strip 9 retains its curved configuration after bending against any readjusting force of core 11.

[017] It is therefore possible to use the same co-extruded profile for manufacturing strips 9 for a plurality of models of door compartments with different radii of curvature of front wall 4.